

WHAT IS CLAIMED IS:

1 1. A device for processing a direct-current-supplied or permanently magnetic
2 component, comprising:

3 positioning means that position the component to be processed in a processing position;
4 magnetic field generation means for generating a magnetic field that generates forces
5 that act contactless on the component and in this way bring about or support the positioning
6 of the component.

1 2. The device as claimed in Claim 1, wherein the magnetic field generation means
2 are constructed so that the forces generated by the magnetic field counteract the force of the
3 weight of the component.

1 3. The device as claimed in Claim 2, wherein the magnetic field generation means
2 are constructed in such a way that the size of the forces generated by the magnetic field are
3 such that they essentially compensate a gravity-induced bending of the component at least in
4 a section to be processed.

1 4. The device as claimed in Claim 1, wherein the magnetic field generation means
2 are constructed in such a way that the component is positioned contactless in its processing
3 position in at least one section to be processed.

1 5. The device as claimed in Claim 1, wherein the magnetic field generation means
2 are constructed in such a way that the forces generated by the magnetic field have components
3 that are oriented transversely to the force of gravity and act symmetrically on the component
4 and center it.

1 6. The device as claimed in Claim 1, wherein the magnetic field generation means
2 are provided with an electrical conductor arrangement of at least one electrical conductor,
3 whereby the conductor arrangement is connected to a power supply and extends below or
4 above the component in the same direction as the component, and

5 that the magnetic field generation means are provided with electrical connection means,
6 with which the component can be connected to a power supply, whereby for the positioning
7 of the component in its processing position the conductor arrangement and the component are
8 supplied with power in such a way that between the component and the conductor arrangement
9 a repelling force or attractive force is generated, which brings about or supports the
10 positioning of the component.

1 7. The device as claimed in Claim 6, wherein the conductor arrangement is
2 constructed in the form of a coil around a core of ferromagnetic material, preferably ferritic
3 steel.

1 8. The device as claimed in Claim 1, wherein the positioning means are provided
2 with holding means that fix the component to be processed at its end sections in its processing
3 position.

1 9. The device as claimed in Claim 8, wherein the holding means at the same time
2 form the electrical connection means.

1 10. The device as claimed in Claim 1, wherein the component is an electrical
2 conductor or conductor bundle.

1 11. The device as claimed in Claim 1, wherein the component is an electrical
2 conductor or conductor bundle of a rotating electrical machine.

1 12. The device as claimed in Claim 1, wherein the processing of the component
2 includes the production of an electrical insulation of the component.

1 13. The device as claimed in Claim 1, wherein the processing of the component
2 includes a spraying process for producing a coating of the component.

1 14. A method for producing a coating on an electrically conductive component,
2 comprising the following steps:

3 inserting the component into a holder that fixes the component outside a section to be
4 coated;

5 enabling of magnetic field generation means for generating a magnetic field that
6 generates forces that act contactless on the component in such a way that the component floats
7 freely at least in the section to be coated; and

8 coating the component.

1 15. The method as claimed in Claim 14, wherein the magnetic field generation
2 means are provided with electrical connection means and an electrical conductor arrangement
3 of at least one electrical conductor that extends below or above the component in the direction
4 of the component, whereby, prior to the enabling step, the component is connected outside of
5 the section to be coated with end sections by way of the electrical connection means, and
6 whereby the enabling of the magnetic field generation means is performed by way of a parallel
7 or anti-parallel power supply to the conductor arrangement and component.

1 16. The method as claimed in Claim 15, wherein the number, arrangement, and
2 shape of the electrical conductor of the conductor arrangement is chosen so that the generated
3 magnetic field essentially compensates the gravity-induced bending of the component at least
4 in the section to be coated.

1 17. The method as claimed in Claim 15, wherein the number, arrangement, and
2 shape of the electrical conductor of the conductor arrangement is chosen so that the generated
3 magnetic field centers the component transversely to its extension direction and transversely
4 to the force of gravity.

1 18. The method as claimed in Claim 14, wherein support means are provided that
2 support the component at least in the section to be coated against gravity-induced bending,
3 whereby these support means are removed or disabled during the coating step.